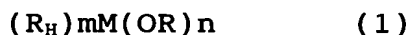


CLAIMS

1. A hologram recording material comprising a metal oxide matrix and a photopolymerizable compound, said metal
5 oxide matrix having a halogen-containing organic group.

2. The hologram recording material according to claim 1, wherein said halogen-containing organic group is a halogenated hydrocarbon group.

3. The hologram recording material according to claim
10 1, wherein the metal oxide matrix is formed by hydrolysis and polymerization reaction of a metal alkoxide compound, and said metal alkoxide compound includes a metal alkoxide compound represented by the following general formula (1):



15 wherein R_H represents a halogen-containing organic group, R represents an alkyl group, M represents a metal atom, m represents 1 or 2, and $m + n$ represents the valence of the metal atom M .

4. The hologram recording material according to claim
20 1, wherein the metal oxide matrix is made mainly of an oxide of silicon.

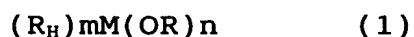
5. The hologram recording material according to claim 1, wherein said photopolymerizable compound has an aromatic ring.

25 6. The hologram recording material according to claim

1, further comprising a photopolymerization initiator.

7. A process for producing a hologram recording material, comprising the steps of:

hydrolyzing a metal alkoxide compound which includes a
5 metal alkoxide compound represented by the following general formula (1):



wherein R_H represents a halogen-containing organic group, R represents an alkyl group, M represents a metal atom, m
10 represents 1 or 2, and $m + n$ represents the valence of the metal atom M , thereby yielding a precursor of a metal oxide matrix;

mixing a photopolymerizable compound before or after said hydrolysis; and

curing the metal oxide matrix precursor mixed with the
15 photopolymerizable compound, thereby forming a metal oxide matrix.

8. A hologram recording medium having the hologram recording material according to any one of claims 1 to 7.